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## Araneae

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## Araneae

Lauren Ashley Rougeaux-Burnes, Texas Tech University

Textile Innovations, Couture Techniques, Ready-To-Wear

Bust – 35 1/2 inches, Waist – 26 1/2 inches, Full Hip – 36 1/2 inches

Biomimicry is an approach to innovation that seeks to improve human life by emulating nature's time-tested patterns and strategies. The Theory of Biomimicry, as referenced by Eadie & Ghosh in their 2011 study, *Biomimicry in Textiles: Past, Present, and Potential*, has become a blossoming source of inspiration for designers of many mediums, including architecture, textiles, technology, and fashion. The invention of Velcro is an excellent example of biomimicry in fashion. Velcro was conceptualized after the inventor noticed burrs stuck to his trousers and his dog's fur, which led to his creation of a new hook and loop fastening device, Velcro. Nature has already solved many of the problems with which we grapple. It is simply up to us to pay attention.

*Araneae* was created as part of a collection that uses creative research methods to marry science, technology, fiber arts and design, by investigating methods that nature (i.e., plant life, animals, etc.) has developed to overcome challenges and to adapt to the environment. This collection tests the influences that science and nature have on clothing aesthetics and how this positively affects the life of the wearer. The silhouettes, textures, patterns, and colors of these garments were inspired by methods of protection utilized by insects. Some characteristics in the collection include the interpretation of the chitinous exoskeleton and the compound eye in the design of flat patterns and the garment construction.

*Araneae* is an interpretation of a spider's legs and web. *Araneae* seeks balance in both the physical and visual texture created from a piece of cloth that has been deconstructed, stitched, pieced and manipulated. This piece occupies one life when viewed from afar, but takes on another personality when viewed closer, as the details become clear. As a species, spiders serve as important predators and prey for a multitude of other animals. Taken as a whole and given the diversity of species assemblages in most ecosystems, spiders' primary niche in nearly every ecosystem is controlling insect populations. To bring attention to their importance in our ecosystem, an original textile was created.

The design process began with draping and constructing the base gown to serve as a structured garment to attach fabric manipulations. Next, samples were made to investigate how to most effectively represent the linear and delicate legs and web of a spider. Organza provided the most successful manipulation and allowed for visual depth when overlapped. Squares of organza were then torn from the bolt to create frayed, hair-like edges on the textile to represent the hair on the leg of a spider. The squares were then accordion folded and pressed. Next, the accordion was folded in half and the inside edges were stitched together to allow the outside edges to spread, creating a fan-like shape. Each shape was then meticulously draped on the form to produce an organic pattern, causing the viewer's eye to

move throughout the piece. Finally, each shapes was hand-tacked onto the base garment in a minimum of four locations.

#### References

Eadie, L. & Ghosh, T. K. (2011). Biomimicry in textiles: past, present and potential. *Journal of the Royal Society Interface*, DOI: 10.1098/rsif.2010.0487.

